

**SANITARY PERMIT
RULES AND REGULATIONS**

ECONOMIC IMPACT STATEMENT

Title 5 Guam Code Annotated, Chapter 9, Article 3

**DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES
DIVISION OF ENVIRONMENTAL HEALTH**

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ECONOMIC IMPACT STATEMENT
For the Implementation of the Proposed
SANITARY PERMIT RULES AND REGULATIONS

SUMMARY

The Division of Environmental Health (DEH) of the Department of Public Health and Social Services (DPHSS) is proposing to amend the existing “*Sanitary Permit Rules and Regulations.*” The proposed amendments seek to revise the existing fee schedule for the issuance of Sanitary Permit and include provisions for the assessment of monetary penalty to individuals and businesses that repeatedly or blatantly violate environmental health laws and regulations.

Section 21101 of Title 10 GCA, Chapter 21 (Sanitation) prohibits the operation of any health-regulated establishment (HRE) without a valid Sanitary Permit. HRE are facilities, such as restaurants, childcare centers, dormitories, public swimming pools, beauty salons, and dry-cleaners, which are governed by Title 10 GCA, Chapters 23, 24, 25, 26, 27, 28, 29, and 30. These laws safeguard the public’s health from environmental health hazards through the application and enforcement of various sanitation requirements. Sanitary Permits are issued by DEH and fees collected are deposited into the Environmental Health Fund (EHF). The EHF was established by legislation and monies generated are to be expended solely in support of DEH operations. Title 10 GCA, Chapter 21 mandates DEH to inspect all HREs every quarter, which equates to nearly 12,000 inspections a year of about 3,000 HREs that are permitted yearly. However, the Division has been averaging less than 1,500 inspections a year because of an insufficient number of inspectors.

The proposed fee increase will be to the level that will enable the Division to (1) timely conduct pre-operational inspections for the issuance of Sanitary Permit; (2) meet its statutory obligation of inspecting every health-regulated establishment at least once every quarter; and (3) provide proper supervision of staff to ensure uniformity of inspections through a manageable span of control. Generated revenue that is deposited in the EHF will be expended for the recruitment of additional inspectors and supervisors to conduct pre-operational inspections and compliance inspections.

To aid in the economic impact assessment of the proposed regulations, DEH analyzed its own data and reviewed existing data and figures from the U.S. Centers for Disease Control and Prevention (CDC) and other reputable sources. Direct economic impacts are presented here, with some indirect monetary impact. Direct costs include medical expenses incurred to treat or alleviate illnesses, while indirect costs are loss of earnings by individuals who took time off from work due to illness, or by parents or guardians who have to take care of the sick child. The analysis represents DEH’s best estimate of these economic impacts. Other possible impacts such as long-term health consequences, pain and suffering of sick consumers, time lost from work or school, and possible lawsuits are not quantified in this analysis but are equally important.

The total direct economic impact to the applicable businesses in the implementation of the *existing* rules and regulations for the issuance of Sanitary Permit was \$879,266 in FY 2018. If the average of the last five years were calculated (FY 2014 – FY 2018), the direct economic impact was \$898,568. In the *proposed* rules and regulations, there will be a direct financial impact of approximately \$1,067,200 to the approximately 2,900 permanent health-regulated establishments in the first year of enactment, followed by \$1,357,200, \$1,647,200, \$1,937,200, and \$2,227,200 in the subsequent four years. The costs to equip the inspectors (i.e., vehicles, inspection tools, etc.) and to process and issue the Sanitary Permits were not included in the revised fee schedule to minimize the dramatic increase.

The increase of fees for the issuance of Sanitary Permit, and the resultant additional staff, should have beneficial impact to the economy and the population of Guam from the anticipated reduction, or prevention, in the number of foodborne illnesses and other diseases that can be transmitted from any of the nearly 3,000 health-regulated facilities on the island, as there will be a greater number of inspections to enforce and promote compliance. The cost benefits to the public should outweigh the costs that the industry will experience from the adoption of the proposed fee increase. The economic burden of foodborne diseases alone in the U.S. annually has been estimated to be \$77.7 billion resulting from the 48 million foodborne illnesses occurring every year in America. This equates to \$1,618.75 per case. If the annual estimate is applied to Guam using the island's 2010 census, Guam's share of the economic cost for foodborne illnesses would be approximately \$257.96 million a year. If diseases, injuries, disabilities, or deaths that occur from non-food establishments (i.e., childcare centers, schools, swimming pools) were included, the economic burden would surely be higher.

I. Purpose and Need

The Division of Environmental Health (DEH) of the Department of Public Health and Social Services was established by P.L. 15-96, which was later codified as Division 2, Part 1 (Environmental Health) of Title 10 GCA. DEH serves to implement applicable environmental health mandates of Title 10 GCA to protect the public health from hazards associated with poor or inadequate sanitation. An overview of DEH's mission, mandates, and programs is presented in **Annex 1**.

Section 21101 of Title 10 GCA, Chapter 21 (Sanitation) prohibits the operation of any health-regulated establishments without a valid Sanitary Permit. These health-regulated establishments (HRE) are Eating and Drinking Establishment (Title 10 GCA, Chapter 23), Food Establishment (Title 10 GCA, Chapter 24), Institutional Facility (Title 10 GCA, Chapter 25), Hotel and Temporary Workforce Housing (Title 10 GCA, Chapter 26 and Chapter 26A), Cosmetic Establishment (Title 10 GCA, Chapter 27), Laundry and/or Dry Cleaner (Title 10 GCA, Chapter 28), Public Swimming Pool (Title 10 GCA, Chapter 29), Mortuary (Title 10 GCA, Chapter 30), and Tattoo Shops (Title 10 GCA, Chapter 20). The regulatory control and its enforcement of these mandates are performed by the Division of Environmental Health (DEH) of the Department of Public Health and Social Services (DPHSS). In addition, Section 21104 of Chapter 21 directs DPHSS to inspect every health-regulated establishment at least once every three months, and as often as necessary. Categories and subcategories of every HRE are presented in **Annex 2**.

Section 20105 of Title 10 GCA, Chapter 20 (General Provisions) authorizes DPHSS to “*adopt and promulgate such rules and regulations...in accordance with the Administrative Adjudication Act*” to carry out environmental health provisions of Title 10 GCA. As a result, DPHSS has adopted numerous regulations for various environmental health programs, including the regulations for Sanitary Permit. The current Sanitary Permit Rules and Regulations, which were adopted in 2011, had established the fee schedule for the issuance of Sanitary Permit to the island’s health-regulated establishments. Revenues generated from the issuance of Sanitary Permits are deposited into the Environmental Health Fund (EHF) pursuant to §20121 of the same Chapter, and monies from the fund are to be expended solely in support of DEH operation.

Section 20118 of Title 10 GCA, Chapter 20, authorizes DPHSS to issue monetary fines to violators of environmental health laws and its rules and regulations. The same section further authorizes the Department to promulgate rules and regulations in establishing such fines. All monetary fines are to be deposited into the General Fund.

Nearly all field activities, including pre-operational inspections and compliance inspections, and the management of environmental health programs, are performed by Environmental Public Health Officers (EPHO) of DEH. Upon recruitment, EPHOs undergo intensive and extensive classroom and field training so that they may be familiar with all environmental health programs of the Division, especially the sanitation inspections of food facilities and other HREs. Within a year of qualifying, all EPHOs are compelled to obtain the following credentials and license so to ensure they possess understanding of major environmental health principles and practices: Certified Professional-Food Safety, Category 2 Pesticide Applicator, Certified Pool and Spa Operator/Inspector, and/or Registered Environmental Health Specialist. Aside from pre-operational and compliance inspections, EPHOs have other collateral duties and responsibilities, which include surveillance and control of vectors and regulation of consumer commodities. On any given day, as determined by priority, there may be between one to eight EPHOs available to conduct compliance inspections of HREs.

The proposed fee increase will improve the Division’s ability to (1) timely conduct pre-operational inspections for the issuance of Sanitary Permit; (2) meet its statutory obligation of inspecting every health-regulated establishment at least once every quarter; and (3) provide proper supervision of staff to ensure uniformity of inspections through a manageable span of control. Through the adoption of the proposal, DEH seeks to recruit additional inspectors and supervisors and effectuate the plan by utilizing the additional revenue that will be generated into the EHF from the revised fee schedule. The fee increase is to occur in annual increments until the proposed amount of \$768.00 is reached within five years of enacting the proposed rules and regulations. In addition, DEH proposes to establish other fees for services it provides to health-regulated establishments and to institute monetary fines for certain violations. The implementation of monetary penalty is pursued by the Division to deter sanitation violations, especially in food facilities, to prevent or minimize disease outbreaks from potentially occurring through the actions or inaction of HREs by penalizing them for repeat and/or blatant violations of environmental health laws and regulations.

Prior to the establishment of the EHF in 2000, DEH obtained its funding primarily from the General Fund (GF) for its operation. As a result of the EHF, the Division has been able to recruit

personnel, procure more equipment, and contract additional services in the implementation of the Division's many environmental health programs. After 2008, DEH became more reliant on EHF funding for operation as appropriations from the GF began to decrease (**Annex 3**). In FY 2018, nearly 65% of the total appropriation to DEH originated from EHF, which is a severe contrast to FY 2005 when GF provided 72% of the total funding to the Division. Current EHF revenue is insufficient to enable DEH to comply with all of its mandates, especially the quarterly inspection of all permitted HREs. For any expansion of its existing operation to occur, such as completing more compliance inspections, GF appropriation to DEH must increase and/or EHF revenue enhanced; the proposed rules and regulations are addressing the latter.

From Fiscal Year 2014 to Fiscal Year 2018, DEH issued an average of over 3,000 Sanitary Permits annually. In FY 2018, 3,246 permits were issued (**Annex 4**). If each permit issued was categorized as a permanent establishment, which operated for a period of one full year, DEH was obligated to conduct nearly 13,000 compliance inspections every year. In the last 15 years, DEH had an average of 3.0 full-time employees to conduct such compliance inspections (**Annex 5**), which equated to:

- Ratio of inspectors to establishments: 1:1042
- Required number of inspections per inspector per year: 4,168
- Required number of inspections per inspector per day: 16.8

These are unrealistic and unattainable figures; DEH was able to complete an average of only 1,357 compliance inspections per year during the same period with available staff. The challenge of conducting the required number of inspections continues to this date.

Because of the insufficient number of personnel to conduct compliance inspections, DEH has focused its resources into education and prioritizing programs and activities based on health risk to the public. Thus, establishments which cater to highly-susceptible populations, such as the young (childcare facilities), elderly (senior meals), and the sick (hospitals) are scheduled to be inspected more often than others; these establishments are followed in priority by full-service restaurants because of their complex preparations and the preparation of potentially hazardous foods. Food facilities alone account for nearly 80% of all permitted establishments regulated by DEH. By prioritizing, efforts are directed toward activities that have the most impact in protecting the public, and because DEH implements risk-based inspections, its regulatory actions are proportionate to the level of risk. Accordingly, critical requirements are evaluated more thoroughly than non-critical requirements, and the frequency of inspections reflect the risks an establishment poses to the public.

The consequence of focusing primarily on high-priority HREs, and employing risk-based inspections, has been that less prioritized establishments have not been inspected routinely, or have been neglected for long periods of time, which threatens the health of the entire population. Many HREs have gone without an inspection by DEH for several years, if at all. As of May 2018, nearly 44% of all food-related establishments had not been inspected in 5 or more years; institutional facilities fared a little worse with 46% (**Annex 6**). The worst was public swimming pools, as almost 76% of these establishments had not been inspected for at least 5 years. In FY 2018 alone, Sanitary Permits of 40 food facilities (Eating & Drinking Establishments and Food Establishments) were suspended because of excessive violations and/or pest infestations (**Annex**

7); nearly all were deemed non-priority HREs since these establishments did not cater to highly-susceptible populations. Instead, they were inspected, and subsequently suspended, because of complaints from the public. Hence, had DEH not been informed of these establishments' unsanitary conditions and practices from concerned citizens, it is very likely that the Division would not have discovered these violations until years later. Of these closures, the time period between date of suspension and when they were previously inspected ranged from 11 years to less than 1 month, with the average of nearly 4 years between inspections. The Sanitary Permit suspensions of these 40 HREs highlights the need for routine inspections of all HREs, regardless of the risk category. For some categories, critical violations and/or pest infestation were commonly cited (**Annex 8**).

The following national data provide additional reasons for the need to adopt and implement the proposed regulations:

- According to the U.S. Centers for Disease Control and Prevention (CDC), it is estimated that 48 million Americans (1 in 6) get sick from foodborne diseases with 128,000 hospitalizations and 3,000 deaths every year.¹ The economic burden from foodborne illnesses in the U.S. is estimated to be \$15 Billion to \$77 Billion annually.^{2,3}
- CDC reports that about 22,000 pool-related infections were caused by *Cryptosporidium* in 2018 and the total medical and work loss costs for this type of infection is approximately \$2,800 per person.⁴ While cryptosporidiosis has not been reported on Guam, possibly due to lack of testing for this parasite on island, many diarrheal complaints are seen on the island. The potential for infectivity from the disease is high as several studies have confirmed that it has worldwide incidence. A 2018 Consumer Product Safety Commission report showed that two-thirds of non-fatal drownings among children ages one to four years occur in pools.⁵
- Asthma is the leading chronic illness among children and adolescents in the U.S., and it is the number one cause of school absences associated with chronic illness.⁶ Six point two million (6.2 million) children under 18 years of age have been diagnosed with asthma in the U.S. (2017 data). There is a direct correlation between indoor environmental quality and occupant health, attendance, academic performance, and general cognitive ability. One of the most commonly cited violations at schools is inadequate ventilation.

Another challenge DEH encounters is establishments that knowingly and intentionally violate environmental health laws and regulations, which threatens the health and safety of the public and the integrity of the inspection results, such as:

- Businesses operating without a Sanitary Permit, and thus, not meeting the physical and operational requirements to protect consumers;
- Establishments removing or concealing the inspection report and/or letter grade to prevent the public from knowing its inspection result; and
- Distributors and retailers repeatedly importing misbranded and/or unapproved consumer commodities into the island.

To deter and penalize such violators without necessarily pursuing criminal charges, DEH seeks, through the proposed regulations, a monetary penalty that is to be assessed and adjudicated

administratively. Section 20120 of Title 10 GCA, Chapter 20 mandates all fines that are collected be deposited into the General Fund.

The ultimate goal in adopting the proposed rules and regulations for Sanitary Permit is to reduce disease transmission, or minimize its potential to occur, through effective regulatory controls and enforcement so to protect the health of the population, for goods and services received from island HREs. In the last few years, Guam has been very fortunate that there has been no large disease outbreak associated with HREs, but there continues to be sporadic reported cases and anecdotal stories of illnesses originating from HREs. The adoption of the proposal will allow DEH to be proactive in its attempt to prevent outbreaks from happening. A single outbreak can result in the illness of hundreds, such as the outbreak that sickened over 300 students in 2011, which was the largest foodborne illness occurrence that DEH had ever responded to in the last thirty years. The implicated HRE was the school cafeteria, and although the establishment was categorized as high priority because it served highly susceptible population, DEH had been able to inspect this cafeteria only once a year.

It is important to note that even with the dramatic increase, the revised fee schedule does not take into account the costs that will be sustained by DPHSS for training and equipping the employees. Accordingly, anticipated expenditures from procurement of vehicles and field instruments were not calculated into the proposed fees. Also, no assurances can be made that the fee increase will result in the recruitment of the required number of inspectors to conduct quarterly inspections since the calculated salaries, and thus the proposed fee, are based on entry-level wages. Promotional recruitment, and recruitment of positions that necessitate work experience, such as higher-level positions, will likely result in salaries greater than what was estimated in the proposed fee.

II. Financial Impact: *Current Rules and Regulations*

Existing *Rules and Regulations Relative to the Issuance of Sanitary Permit* assess a base fee of \$290.00 for every application submitted to obtain a Sanitary Permit for establishments with 10 or fewer employees. For every additional employee after the initial ten, a fee of \$5.00 is further assessed. A Sanitary Permit for a temporary food service establishment is \$100.00 if operating for less than six months but more than three days; for those operating for three days or less, the fee for issuance of a Sanitary Permit is \$50.00. A Sanitary Permit for a vending machine is \$290.00 per each style or model and \$5.00 for each additional machine. A flat fee of \$500.00 is assessed for chemical toilet operators regardless of the number of chemical toilets in their inventory.

In FY 2018, regulated island businesses that required a Sanitary Permit collectively incurred \$879,266 in direct cost from the receipt of 3,247 permits issued by DEH. Because nearly 11% of all permits were temporary and operated for less than 4 days, about \$17,850 (357 x \$50.00) of the total cost was sustained by operators of Temporary Food Service Establishments, while the majority of the cost (\$861,416) was derived from the issuance of permanent Sanitary Permits. If the average of the last five years were calculated (FY 2014 – FY 2018), the direct economic impact for the implementation of the existing regulations was \$898,568.

Because existing regulations do not have any provision for monetary penalty, it is not currently being assessed. Subsequently, there is no financial impact from monetary penalty to health-regulated establishments at this time.

III. Financial Impact: *Proposed Rules and Regulations*

The proposed regulations will increase the base fee for Sanitary Permit to \$768.00, which is an increase of \$478.00 (165%) from the current fee of \$290.00. The \$768.00 proposed fee is calculated as follows:

- Number of permanent health-regulated establishments (5-year average)2,900
- Recruitment of 31 inspectors and 6 supervisors to conduct and supervise, respectively, compliance inspections of all permanent health-regulated establishments once every quarter..... \$2,227,480
- Cost per applicant ($\$2,227,480 \div 2,900$) \approx \$768.00

For Temporary Food Service Establishments (TFSE), the proposed regulations will increase the Sanitary Permit fee by 0% to 300%, depending on the duration of its operation. Utilizing available data, it is anticipated that about 365 TFSEs would at a minimum be assessed \$50.00 for a Sanitary Permit. Because the duration of each TFSE is unknown, it cannot be determined how many would be required to pay \$155.00 (TFSE-W), \$125.00 (TFSE-7), \$200.00 (TFSE-X), or \$300.00 (TFSE-180) based on the proposed fee schedule for TFSEs. If the average (\$166.00) of the proposed five fees for TFSEs was applied to the 365 anticipated TFSEs, the total direct financial impact would be \$60,590:

- Average fee for TFSE $(\$50 + \$155 + \$125 + \$200 + \$300)/5$\$166.00
- Total, direct financial impact to 365 TFSEs $(365 \times \$166.00)$ \$60,590

To minimize the financial impact to the regulated establishments, the cost to equip the inspectors (i.e., vehicles, field instruments, etc.) was not added to the proposed fee increase. Had this been included, the direct financial impact for the first year would have been an additional \$1 million dollars to affected businesses. The cost that will be incurred by the Department for the processing and the issuance of Sanitary Permits was also excluded from the revised fee schedule. These costs will need to be absorbed by other means (i.e., different funding source) by the department.

The proposed fee will occur in gradual, annual increments to allow affected businesses to adjust to the substantial increase, which will also allow DPHSS the time to recruit the inspectors and properly train them. Therefore, immediately upon the enactment of the regulations, the base fee will increase to \$368.00, then every year thereafter on the anniversary of the regulations' adoption, the fee will increase by \$100.00 until the final \$768.00 fee is achieved:

- Upon enactment: \$368.00
- 1 year after enactment: \$468.00
- 2 years after enactment: \$568.00
- 3 years after enactment: \$668.00
- 4 years after enactment: \$768.00

Collectively, there will be a direct financial impact of approximately \$1,067,200 to the approximate 2,900 permanent, health-regulated establishments in the first year of the proposed fee's enactment, followed by \$1,357,200, \$1,647,200, \$1,937,200, and \$2,227,200 in the subsequent four years.

The fee increase should enable the Department of Public Health and Social Services to recoup much of the cost for the enforcement of the Sanitary Permit. The increase in fee will result in more inspectors to accomplish more inspections, and thus, minimizing or preventing disease transmittance from occurring at, and from, health regulated establishments. This is particularly relevant of food related establishments, which comprise nearly 80% of all permitted businesses. The University of Guam estimated that the annual impact of foodborne illness on island is approximately 39,000 incidences, 3 deaths, and 167 hospitalizations, with an economic cost of \$5.1 to \$42.6 million dollars⁷. With food inspections given greater priority over other types of inspections by DPHSS, it is anticipated that the incidences of foodborne illnesses and associated costs will be reduced as a result of the proposed regulations' enactment.

The additional compliance inspections from increased staffing will also include non-food associated facilities, such as hotels, cosmetics establishments, public swimming pools, and other regulated establishments, which historically have received fewer inspections and been given lower priority over food-related establishments.

The financial impact of assessing monetary penalties would only be applicable to those health-regulated establishments that blatantly violate environmental health laws and regulations, such as operating a business without a Sanitary Permit or concealing or removing the inspection grade placard, and those establishments that repeat the same critical violation within a one-year (365 days) period. Thus, the potential financial impact to the establishments would vary year to year. From observations of DEH inspectors, along with available inspection reports, the following encounters occur annually, and the anticipated financial impact to affected businesses if monetary penalties are applied (Table 1):

Table 1. Project financial impact per year for monetary penalties.

Violation	Number of Occurrences	Proposed Minimum Monetary Penalty per Violation	Potential Financial Impact
Operating without a Sanitary Permit	15*	\$350	\$5,250
Transferring Sanitary Permit to another	1**	\$350	\$350
Denying access for inspection	1**	\$350	\$350
Refusing to provide required documents	0**	\$200	0
Removing or concealing placard or report	1	\$250	\$250
Manager without required certification	20*	\$200	\$4,000
Importation of unapproved commodity	27 [†]	\$500	\$1,350
Repeat violation of critical requirement	34 ^{††}	\$100	\$3,400
Employee with communicable disease	0**	\$500	0
Total			\$14,950

*Approximate

**Not observed in the last two fiscal years

[†]Number of detainments in FY 2018

^{††}FY 2018 inspection data

Utilizing the figures and calculations in Table 1, it is estimated that nearly \$15,000 could be assessed annually in fines from HREs violating laws and regulations governing the operation of health-regulated establishments.

IV. Potential Increase or Decrease to Cost of Living or Price of Good or Service

The direct cost to affected businesses will be an additional \$78.00 in the first year of the regulations’ implementation, or \$6.50 a month (\$0.20/day). Table 2 presents the increasing, annual economic impact the proposed \$768.00 fee will have on each business when compared to the current \$290.00 fee in the acquisition of a Sanitary Permit.

Table 2. Minimum financial impact per year per establishment.

DATE	PROPOSED ANNUAL FEE TO EACH HRE	ANNUAL FINANCIAL IMPACT	MONTHLY FINANCIAL IMPACT	DAILY FINANCIAL IMPACT
1 st Year	\$386	\$78	\$6.50	\$0.20
2 nd Year	\$468	\$178	\$14.83	\$0.49
3 rd Year	\$568	\$278	\$23.17	\$0.76
4 th Year	\$668	\$378	\$31.50	\$1.04
5 th Year	\$768	\$478	\$39.83	\$1.31

It is doubtful the fee increase will be passed down to customers when the financial impact amounts to less than an average of \$1.50 a day, but if it is, it will likely be pennies a month per customer. It is also unlikely that the implementation of monetary penalties, which will affect only a small percentage of the HREs, will affect the cost of living or price of goods/service.

V. Direct or Indirect Impact of Employment

For the same reason provided above in the projected cost of living increase, the direct and indirect impact to employment should be nominal, if at all. Significant adverse impact to employment may occur from increased inspections and enforcement by DEH when more unlawfully operating regulated businesses are discovered (i.e., no Sanitary Permit), which would force the closure of such businesses and the subsequent permanent or temporary unemployment of its workers.

There will be an expected employment of additional 37 EPHOs in DEH as the fee increase will raise the revenue of EHF that will fund these employees.

VI. Increase or Decrease in Cost of Business

The cost of business will increase for all affected establishments; however, it’s doubtful the impact would be enough to force the business to pass down the cost to the consumers or reduce their staff number.

VII. Adverse or Beneficial Economic Impact

The increase of fees for the issuance of Sanitary Permit, and the resultant additional staff, should have beneficial impact to the economy and the population of Guam from the anticipated reduction or prevention in the number of foodborne illness and other diseases transmitted (or can be transmitted) in the nearly 3,000 regulated facilities on the island, as there will be greater number of inspections to ensure compliance. Currently, there is limited data and studies to effectively quantify the true dollar amount potentially saved on the costs of diseases on Guam.

More inspections should mean improved compliance by the regulated establishments, and thus consequently reducing the incidents of diseases originating from these facilities, thereby, reducing the economic burden these diseases have on the island and its people. The cost benefits to the public should outweigh the costs that the industry will experience from the adoption of the proposed fee increase. The economic burden of foodborne diseases alone in the U.S. annually has been estimated to be \$77.7 billion resulting from the 48 million foodborne illnesses occurring every year in America. This equates to \$1,618.75 per case. If the annual estimate is applied to Guam using the island's 2010 census, Guam's share of the economic cost for foodborne illnesses would be approximately \$257.96 million a year. If diseases, injuries, disabilities, or deaths that occur from other non-food establishments were included, the economic burden would surely be higher.

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